



FRACTURE PENIS: OUR EXPERIENCE OF 15 YEARS AT A TERTIARY CARE CENTRE

Urology

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ABSTRACT

Objectives: To study the clinical presentation, investigations, and outcome of the surgical treatment of fracture penis. **Materials & Methods:** This is a retrospective study of 61 consecutive cases of penile fracture who presented to the emergency department of Goa Medical College from April 2008 to March 2023. All patients were evaluated with clinical history and examination, and surgical repair was carried out on emergency basis. The outcome of the surgical repair was analysed. **Results:** The most common cause of fracture penis was trauma during sexual intercourse. The tunical defect was detected on ultrasonography in 54 cases. 19 patients had a delayed presentation (> 24 hours after injury). Post-operatively, 7 patients had painful erection and 3 patients had mild chordee. None of our patients had erectile dysfunction. **Conclusion:** Ultrasonography is a good adjunct tool in diagnosing fracture penis. Immediate surgical repair is necessary to prevent morbidity with minimum complications.

KEYWORDS

Fracture penis, tunica albuginea, emergency exploration

INTRODUCTION

Penile fracture is a rare urological emergency with an incidence of 1 in 175000. Penile fracture occurs as a result of blunt trauma to the erect penis during sexual intercourse or masturbation. When the erect penis bends abnormally, the abrupt increase in intracavernosal pressure exceeds the tensile strength of the tunica albuginea, and a transverse laceration of the proximal shaft usually results.¹ Anamnesis and physical examination is usually adequate for diagnosis, but if these two methods are inconclusive, then cavernosography becomes necessary for the diagnosis. Anamnesis typically includes sudden detumescence and ecchymotic swelling of the penis following a cracking sound while the penis is erect. The mainstay in management is prompt surgical exploration and repair. Erectile dysfunction, penile curvature, and pain during erection are some of the complication seen due to penile fracture.

MATERIALS AND METHODS

61 consecutive cases of fracture penis who presented to the emergency department of Goa Medical College from April 2008 and March 2023 were retrospectively studied. All patients were evaluated with clinical history for the nature of injury, time of presentation, history of any previous treatment for erectile dysfunction, penile swelling, and bleeding through urethra. Ultrasonography was done in all cases to aid clinical diagnosis. All patients underwent an emergency surgical exploration. In patients who presented with bleeding per urethra, urethrocystoscopy was done prior to surgical exploration. Surgical exploration was performed by degloving of the penis with a circumferential incision. Hematoma was evacuated after degloving of the penis, and defects in the tunica albuginea were identified and sutured with 3-0 absorbable sutures. In patients who had urethral injury, urethral margins were first freshened, and then sutured using absorbable sutures. A per-urethral Foley catheter was maintained for 2 weeks in patients with urethral injury. Patients were followed up at 1 month, 3 months, 6 months, and 12 months, and yearly thereafter with an emphasis on clinical examination and erectile function.

RESULTS

All of our patients were between 18 to 45 years of age. The most

common cause of fracture penis in our study was vigorous sexual intercourse (n=51). Table 1 shows various patient characteristics.

Table 1. Patient Characteristics

Number of patients	61	
Age group	18 to 45 years	
Etiology	Sexual Intercourse	51
	Masturbation	9
Time Of Presentation	Fall on erect penis	1
	< 12 hours	24
	12– 24 hours	18
	>24 hours	19
Urethral injury	1	

Ultrasonography was done in all patients and it detected a tunical defect in 54 patients. One of the patient in the study was found to be receiving an intracavernosal injection of vasoactive agents for erectile dysfunction. This patient presented with urethral bleeding. Cystourethroscopy was done in this patient which revealed urethral rupture in proximal penile urethra. The length of defect in the tunica albuginea ranged from 1cm to 1.8cm. Figure 1 and Figure 2 shows the preoperative and intraoperative findings.



Figure 1. Preoperative finding



Figure 2. Rent in Tunica Albuginea

The mean duration of hospital stay was 3 days. There were no immediate postoperative complications seen in any of our patients. The duration of follow-up ranged from three months to two years. Three patients were lost for follow-up. Six patients complained of pain during erection, which subsided over a period of 6 to 8 months. Three patients had mild chordee which did not interfere with sexual intercourse. None of the patients had erectile dysfunction except for one patient who had a previous history of erectile dysfunction.

DISCUSSION

The tunica albuginea is one of the tougher fascia in body. During an erection, the tunica becomes very thin and vulnerable to rupture.² Incidence and aetiology varies within different geographic area, for instance sexual related cause of penile fracture is more common in western Europe and America, usually during sexual intercourse (46-82%).³ While in the Middle Eastern countries, the most frequent cause is reported to be forceful bending manipulation of the penile shaft also known as the practice of taqaandan (21%). Other causes are masturbation (18%), and accidental rolling over during erection (8.2%).³ In our study, sexual intercourse was commonest cause of fracture penis. Penile fracture typically presents with classic "snap-pop" or rapid detumescence followed by penile swelling, deformity, and echymosis. The incidence of urethral trauma in penile fracture varies from 1 to 38%.⁴⁻⁸ Bleeding per urethra, hematuria, or an inability to void indicate urethral injury, although the absence of these findings does not definitively rule out urethral injury.^{9,10}

The diagnosis of fracture penis is based on history and physical examination, with more than 90% of people with the classic symptoms of hearing sudden snapping sound, followed by immediate pain, detumescence, and a substantial subcutaneous hematoma leading to an 'eggplant deformity'.^{3, 11, 12, 13} The literature advocates a spectrum of investigations, including ultrasonography, cavernosography, urethrography, angiography, and magnetic resonance imaging (MRI). Ultrasonography is the cheapest and most reliable, non-invasive test available; however, sometimes it may be difficult to interpret in the presence of significant hematoma and edema.¹⁴ Our experience suggests that ultrasonography is a good investigation with an accuracy of 89% in detecting tunical defects.

The patients may hesitate to disclose their condition due to the obvious embarrassment associated with such injuries, thus delaying the medical treatment. However in our study the delay in presentation (> 24 hours) did not have any adverse effect on the post-operative outcome. This was similar to the study by Cummings et al who reported that a delay of 24-48 hours does not adversely impact the postoperative functioning of the penis.¹⁵

Surgical management has shown to have better outcome and shorter hospital stay with less complication rate of erectile dysfunction, penile curvature, and penile pain on erection in comparison to the conservative management.^{16, 17} Conservative management of a penile fracture results in penile curvature in more than 10% of patients, abscess or debilitating plaques in 25 to 30%, and significantly longer hospitalization times and recovery.^{2,18,19}

Early surgical repair is generally preferred in the treatment of fracture penis to avoid complications such as penile curvature, the development of fibrotic plaques and painful erection. Early surgical repair might also preserve sexual function and decrease the length of hospitalization.^{6,20,21}

We used a distal circumcising incision which allowed access to the cavernosa and spongiosa. Deep corporal vascular ligation or excessive

debridement of the delicate underlying erectile tissue must be avoided. Partial urethral injuries should be sutured using fine absorbable sutures over a per-urethral Foley catheter. Complete urethral injuries should be debrided, mobilized, and repaired in a tension-free fashion over a catheter. Broad-spectrum antibiotics and sexual abstinence for one month is recommended.

Complications like penile curvature, painful erections, pain during intercourse, a nodule over the penis, and erectile dysfunction can occur after repair of penile fracture. Zagrooshi reported an overall complication rate of 4.7%.⁶ Ibrahim et al.²² reported painful erections in 1.3%, penile deviation in 3.2%, both in 0.7%, erectile dysfunction in 7.8%, and palpable scarring in 10% of patients in a cohort of 155 patients. In our series, penile pain during erection was seen in 6 patients (11.1%) which subsided over a period of 6 months, mild chordee was seen in 3 patients (5.55%) and none of our patients had erectile dysfunction.

In conclusion, penile fracture is a rare urological emergency. Penile fracture can be diagnosed by clinical examination with the help of ultrasonography. Early surgical exploration and primary repair results in good outcome in respect to erectile and sexual functions. Long-term results of surgical repair appear to be good, even in patients undergoing a delayed repair.

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Ethics Committee Approval: Ethical approval was obtained from Institutional Ethics Committee of Goa Medical College.

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